



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE SYPHILITIC FACTOR IN ESSENTIAL EPILEPSY.

By N. NOVICK, Associate Bacteriologist, United States Public Health Service Hospital No. 34, East Norfolk, Mass.

The coexistence of epilepsy with other nervous and mental diseases, both of syphilitic and nonsyphilitic origin, has been frequently emphasized. Indeed, the present tendency in the medical literature is toward the usage of the term "epilepsies," the plural form of the noun. The etiology of epilepsy is still in the problematic state, and hence to account for certain convulsive attacks, whether epileptic or epileptoid in character, the syphilitic factor as, perhaps, contributory to or explanatory of seizure manifestations, presents itself prominently in the diagnosis and study of these cases. Is syphilis associated frequently enough with epilepsy to justify its inclusion as a necessary and highly desirable eliminating factor in the diagnosis of the "epilepsies"? The genuine, or classic, epilepsy, in the sense and description of Clark (1), constitutes a disease entity group perhaps nonsyphilitic in origin. Buchanan (2), in a study of 128 cases of epilepsy, found the Wassermann reaction uniformly negative. Rawlings (3), in studying the colloidal gold reaction in the spinal fluid of a large number of psychiatric patients, included a group of forty cases of epilepsy in which but one gave a positive Wassermann in the blood serum. It was felt that the inquiry into the frequency of a positive Wassermann reaction in the blood serum of essential epileptics without a clinical history of infection or other manifestations of syphilis, as well as the incidence of frank cases of syphilis with epilepsy, might prove of some import. This, then, is the primary object of this communication, namely, the determination of the syphilitic factor in a considerable number of epileptic patients, as evidenced by history of infection, clinical manifestations of syphilis, and corroborative proof of the Wassermann examinations, and also the frequency of a positive Wassermann alone in the blood serum of epileptics in the absence of clinical manifestations of syphilis, viewed, perhaps, as constituting the etiological factor in these particular cases.

The diagnosis of the cases under consideration has been fairly well established by a group of trained men, by constant and careful observation in an institution apparently favorable for them, where seizure manifestations have been watched with a view to correct diagnosis and treatment. It is apparent that if a sero-diagnostic study in epilepsy with relation to syphilis is to be of any value at all, the establishment of the diagnosis of the epilepsy should, perhaps, constitute a prerequisite. This was apparently accomplished at our hospital, where the clinical observations of the cases was in no way influenced by the laboratory. It is perhaps venturous to state that the typical convulsive seizures, if clearly exhibited,

make the diagnosis comparatively simple, and that the nondeteriorated or potential epileptic or those who present the epileptic equivalents as the only symptom of the disease, often compare favorably with the average normal individual in their general behavior toward their fellow men. Often, however, the epilepsy is superimposed by psychosis of one class or another: In these cases, to be sure, the syphilitic factor needs elimination; and in view of the fact that a history of specific infection is often difficult of elucidation in such patients as a class, by virtue of their peculiar mental make-up, the Wassermann reaction must of necessity remain the guiding hand, if not the only one, in certain instances. Stuart (4) sums up the situation in the following sentence: "It is unsafe to assume that any patient is a true epileptic until that patient has had the thorough going over that he or she is entitled to; and until, by these means, other convulsive-producing diseases have as far as possible been eliminated." In the presence of a positive Wassermann reaction in an epileptic patient, the convulsive attacks are given special inventory, and some ground for specific therapy is thus created. It is needless to state that the method of treatment of syphilitic epileptics is different from the general hygienic, occupational, and dietetic treatments offered in institutional care for patients of the essential type; the specific angle of attack must be resorted to in addition to the general method of treatment.

Incidence of syphilis in epilepsy.

Clinical diagnosis.	Total number of cases.	Wassermann reaction.		Per cent positive.	Clinical and other laboratory evidence.
		Positive.	Negative.		
Essential epilepsy.....	226	5	221	2.2	No history of infection.
Epilepsy with syphilis.....	5	5	0	2.1	
Epilepsy with psychosis.....	19	1	18	No history of infection; spinal fluid negative.
Hysteria.....	33	0	33	
Mental deficiency, no epilepsy..	27	1	26	Chronic specific urethritis.
Total serum examinations.....	404	

It is seen from the table that the incidence of frank syphilis associated with epilepsy in a series of 231 cases was found to be about 2.2 per cent. In three of the positive cases there was, with the epilepsy, a definite history of syphilitic infection several years back, among which one showed luetic scars and one oral lesions; in one the diagnosis of neurosyphilis with epilepsy was made upon a positive Wassermann and other positive tests in the spinal fluid; and in the fifth case the epilepsy was associated with a condition of general paralysis of the insane. Further study of the table will show that the frequency of a possible syphilitic factor in a group of 245 cases of essential epilepsy (19 cases of epilepsy with psychosis), as evi-

denced by a persistent positive Wassermann reaction alone without clinical manifestations of the disease possible of elucidation or other diseases for which a positive complement fixation could have been accounted for was found to be about 2 per cent, a small percentage indeed. It may be remarked by way of discussion that these particular cases, unlike the frankly syphilitic epileptics, have given apparently good results under arsphenamine treatment intravenously and regularly administered as far as their condition of epilepsy was concerned. The term "apparently" is here used advisedly, as the criterion of improvement or cure in epilepsy is debatable; in our instance the frequency of seizures was curtailed and the general mental and physical conditions were improved. It would appear that the condition of epilepsy might have been either due to an obscure syphilitic involvement or much intensified by the latter. This, evidently, was difficult to ascertain. However, the sero-diagnosis in these cases appears to be quite valuable from the point of view of therapy as well as diagnosis; they would appear to justly constitute the syphilitic factor index in the group of essential epilepsy under discussion.

The group of hysteria cases, although those cases do not concern us in the present study, has been included in the table because of the possibility that some of the patients in the group, having been subsequently diagnosed as epileptic by longer observation at the hospital, might be placed in the epileptic group and further reduce the percentage calculations of the series here presented. None of those cases gave a positive Wassermann reaction.

The method used at this hospital laboratory was essentially that of the Hygienic Laboratory of the United States Public Health Service, and described in detail by Passed Assistant Surgeon M. H. Neill in Reprint No. 483 from the Public Health Reports. It was closely followed to secure uniform and accurate results. The antigen used was a fresh beef-heart extract of acetone-insoluble fraction of lipoids. Amboceptor was obtained in the usual way, by intravenous injection into rabbits of small doses of sheep cell suspension, and used as a constant in the hemolytic mixture. Complement was obtained from five normal guinea pigs, through aspiration from the heart, and was pooled, salted, and titrated against the amboceptor-red-cell suspension mixture before performing the day's work. (Rarely were there less than five pigs used, and almost always a freshly obtained complement was employed.) Incubation was as follows: Primary incubation in water bath at 37° C. for one hour, and secondary incubation at same temperature for thirty minutes. The latter period was modified to one hour in the latter part of the work. Results were read after the tubes had remained in the ice box over night. In doubtful cases the test was repeated at weekly intervals.

SUMMARY AND CONCLUSIONS.

In the light of the present usage of the plural term "epilepsies," intended to comprise a group of disease conditions in which the nature of the seizure manifestations varies and in which the etiology of the convulsive attacks possibly differs, the writer endeavored to determine the incidence of syphilis in a series of established institutional cases of essential epilepsy as evidenced by history of primary infection, clinical manifestations, and corroborative evidence of the Wassermann reaction. In 231 cases the incidence of syphilis was found to be 2.2 per cent.

These cases are viewed in the light of the probability of the luetic infection existing side by side with the epilepsy; the seizure manifestations may or may not be traced to the specific involvement, but are perhaps aggravated by the latter disease.

The occurrence of a syphilitic factor in epilepsy as evidenced by repeated positive Wassermann tests alone, in the absence of clinical support, as far as it was possible of determination, was found in 2 per cent of the cases.

This small percentage might, perhaps, constitute the possible syphilitic etiology of epilepsy as determined in a series of 245 cases. Further proof can not be offered.

REFERENCES.

- (1) Clark, Pierce L., *Clinical Studies in Epilepsy*. G. E. Stechart and Co., New York, 1917.
- (2) Buchanan, J. A., *Minnesota Medicine*, St. Paul, Vol. 3, No. 11, November, 1920. Abstracted in *Jour. Am. Med. Assoc.*, Dec. 4, 1920.
- (3) Rawlings, Eva., *Archives of Neurology and Psychiatry*, August, 1919, p. 180.
- (4) Stuart, Daniel D., jr., *Jour. Am. Med. Assoc.*, October, 1920, p. 933.

INDIANA LAW FOR PREVENTION OF PROCREATION BY CERTAIN PERSONS HELD INVALID.

The following abstract of a decision by the Indiana Supreme Court is taken from the advance sheets of the Federal Reporter, issue of August 11, 1921:

The chief physician of the Indiana Reformatory, the board of managers, and two chosen physicians were enjoined from performing vasectomy on an inmate of the reformatory, and on their appeal the law under which they proposed to act was held invalid, as denying due process of law, by the Indiana Supreme Court in *Williams v. Smith*, 131 *Northeastern Reporter*, 2, for the reason that it gave the inmate no opportunity to cross-examine the experts deciding on the operation, to controvert their opinion, or to establish that he was not within the class designated in the statute which includes confirmed criminals, idiots, rapists, and imbeciles, whose mental and physical condition makes procreation inadvisable. The questions of cruel and unusual punishment and infliction of pains and penalties by the legislative body through administrative boards were not considered by Judge Townsend, who wrote the opinion, the act being held to be in plain violation of the fourteenth amendment to the Federal Constitution.